a plurality of light receiving elements, each of the light receiving elements in combination with a plurality of the light emitting elements forming a zone of light beam paths, the number and positioning of receivers being sufficient to form partially overlapping zone pairs such that the touch event lies within at least two partially overlapping zone pairs; and

a processor programmed to:

monitor each of the zone pairs for blockage of at least one light beam path; and

upon such blockage, calculate the location of the touch event associated with the blockage based on the slopes and end points of at least two intersecting blocked light beam paths from a first zone pair and two intersecting blocked light beam paths from a second zone pair.

**2**. The system of claim 1 wherein the processor monitors each of the zone pairs for blockage by being programmed to:

randomly activate the light emitting elements, one at a time; and

monitor the output of each light receiving element associated with the activated light emitting element for an output indicative of a blocked light beam path.

**3**. The system of claim 2 wherein the processor is further programmed to activate the light emitting elements at pseudo random intervals.

**4**. The system of claim 2 wherein the processor is further programmed to activate the light emitting elements in a pseudo random sequence.

**5**. The system of claim 2 wherein the light receiving element outputs a signal having a pulse edge upon receipt of light and the processor is programmed to tag a light beam as blocked in the absence of a pulse edge in the light receiving element output.

**6**. The system of claim 1 wherein the processor is programmed to selected the first and second zone pairs based on the angles formed by the intersecting light beam paths.

**7**. The system of claim 6 wherein the processor is further programmed to select those zones pairs having the most orthogonal angles.

**8**. The system of claim 1 wherein the processor is programmed such that, when the touch event blocks an odd plurality of light beam paths within a zone, touch event location calculation is done using the center blocked light beam path.

**9**. The system of claim 1 wherein the processor is programmed such that, when the touch event blocks an even plurality of light beam paths within a zone, touch event location calculation is done using a virtual beam located between the two central blocked light beam paths.

**10**. A method of determining the location of a touch event within a display area surrounded by a touch frame having a plurality of light emitting elements and a plurality of light receiving elements forming a plurality of zones of light beam paths, the number and positioning of receivers being sufficient to form partially overlapping zone pairs such that the touch event lies within at least two zone pairs, said method comprising:

monitoring each of the zone pairs for blockage of at least one light beam path; and

upon such blockage, calculating the location of the touch event associated with the blockage based on the slopes and end points of at least two intersecting blocked light beam paths from a first zone pair and two intersecting blocked light beam paths from a second zone pair.

**11**. The method of claim 10 wherein monitoring each of the zone pairs for blockage of at least one light beam path comprises:

randomly activating the light emitting elements, one at a time; and

monitoring the output of each light receiving element associated with the activated light emitting element for an output indicative of a blocked light beam path.

**12**. The system of claim 11 wherein the light emitting elements are activated at pseudo random intervals.

**13**. The system of claim 11 wherein the light emitting elements are activated in a pseudo random sequence.

**14**. A touchframe system comprising:

a plurality of opposed perimeter sections;

a plurality of triangular zones, each including a row of light emitting elements positioned along one of the perimeter sections and an associated light receiving element positioned along the perimeter section opposite the light emitting elements, each of the light emitting elements and associated light receiving element defining a light beam path;

a memory device having stored therein the slopes and end points of each light beam path within each of the plurality of triangular zones; and

a processor programmed to:

randomly activate the light emitting elements, one at a time;

monitor the output of each light receiving element associated with the activated light emitting element for blockage of a light beam path; and

upon such blockage, calculate the location of the source of blockage based on the slopes and end points of at least two intersecting blocked light-beam paths.

**15**. The system of claim 14 wherein each row of light emitting elements has two associated light receiving elements positioned such that the two triangular zones formed by the light emitting elements partially overlap.

**16**. The system of claim 15 wherein the light receiving elements have an associated acceptance angle and the light emitting elements have an associated angle of light dispersion and the elements are arranged relative each other such that the center of the acceptance angle of each receivers is directed toward the center of the row of light emitting elements and the center of the angle of dispersion of each light emitting element is directed toward a point midway between the two receivers.

**17**. The system of claim 14 wherein the location of the light receiving element defines the end points of the light beam paths.

**18**. The system of claim 14 wherein the processor is further programmed to activate the light emitting elements at pseudo random intervals.

**19**. The system of claim 14 wherein the processor is further programmed to activate the light emitting elements in a pseudo random sequence.